



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,886	12/26/2001	Jung-Won Suh	29926/38065	4259

4743 7590 12/02/2003

MARSHALL, GERSTEIN & BORUN LLP
6300 SEARS TOWER
233 S. WACKER DRIVE
CHICAGO, IL 60606

EXAMINER

INOA, MIDYS

ART UNIT	PAPER NUMBER
----------	--------------

2188

DATE MAILED: 12/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/035,886

Applicant(s)

SUH, JUNG-WON

Examiner

Midys Inoa

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 5 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other:

Art Unit: 2188

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy was received on April 25th, 2002.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on February 28th, 2002 has been considered by the examiner.

Drawings

3. The drawings filed on December 26th, 2001 have been accepted by the examiner.

Claim Objections

4. Claim 1 is objected to for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. On lines 10-11 of Claim 1, applicant refers to "the N buffer means" when "N buffer means" have not been previously disclosed in the claim. The claim previously discloses "a plurality of buffer means" but does not identify these as being "N buffer means".

5. Claims 2-4 are objected to for failing to provide a definition of the possible values of N.

Regarding Claim 2, Applicant does not identify any values of N as appropriate of inappropriate for the invention. For example, it is noted that if N takes on a value of 1 then, the (N-1)-nary counter would have to be a "zero-nary" counter.

Claims 3-4 are objected to as having the same deficiencies as the claim that they depend from.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipate by Sakurai (5,999,472).

Regarding Claims 1-2, and 5, Sakurai teaches a semiconductor device configured to reduce the time involved in refreshing a memory array ("bank") in which an address buffer 106 buffers inputted address signals ("buffering means") and a refresh counter 9 produces count signals which are triggered by an input which is produced from the combination of output signals from a control signal buffer 7 ("buffering means") after these signals have been decoded by decoder 5. Additionally, the device of Sakurai teaches a refresh control circuit 18 ("chipset control means") which controls the generation of array address activation signals ("internal bank addresses") by the array drive circuit 102. Although Sakurai does not mention the number of arrays on the memory (which would be equivalent to the number of banks) or the plurality of input buffers, it is understood that the system can be configured to contain as many buffers as necessary to control the refresh of a memory with a predetermined number of banks or arrays (Figure 15, Column 19, Line 46 – Column 20, Line 47).

Regarding Claim 4, from the analysis of Figure 15, it is visible that the system of Sakurai teaches a refresh counter 9 which produces count signals triggered by an input which is produced

Art Unit: 2188

from the combination of output signals from a control signal buffer 7 ("buffering means") after these signals have been decoded by decoder 5.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Tang (US 2003/0112687 A1), System and Method for Providing Asynchronous SRAM Functionality with DRAM Array.
- Jones, JR. et al. (US 2003/0161207), Look-Ahead Refresh for an Integrated Circuit Memory.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Midys Inoa whose telephone number is (703) 305-7850. The examiner can normally be reached on M-F 7:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (703) 306-2903. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Midys Inoa
Midys Inoa
Examiner
Art Unit 2188

Mano Padmanabhan
11/25/03

MANO PADMANABHAN
SUPERVISORY PATENT EXAMINER
TC 2100

MI